

Technical Data Sheet

GEHR PEEK®



I. Physical Properties¹⁾

| | Test method | Unit | Value |
|---------------------------------------|-------------|-------------------|-------|
| 1. Specific gravity (ρ) | ISO 1183 | g/cm ³ | 1,32 |
| 2. Water absorption | ISO 62 | % | 0,4 |
| 3. Humidity absorption | | | 0,07 |
| 4a. Maximum permissible service temp. | UL746B | °C | 260 |
| 4b. Lower permissible service temp. | | | -40 |

II. Mechanical Properties

| | Test method | Unit | Value |
|---|-------------|-------------------|-------|
| 1. Tensile strength at yield (σ_s) | ISO 527 | MPa | 91 |
| 2. Elongation at yield (ϵ_s) | | % | 7 |
| 3. Tensile strength at break (σ_R) | | MPa | 67 |
| 4. Elongation at break (ϵ_R) | | % | 11 |
| 5. Impact strength (a_n) | ISO 179 | kJ/m ² | o.B. |
| 6. Notch impact strength (a_k) | | | 4 |
| 7. Ball indentation (H_k)/Rockwell hardness | ISO 2039 | MPa | M 99 |
| 8. Shore-D | ISO 868 | | 90 |
| 9. Flexural strength ($\sigma_{B,3.5\%}$) | ISO 178 | MPa | 170 |
| 10. Modulus of elasticity (E_t) | ISO 527 | | 4210 |

III. Thermal Properties

| | Test method | Unit | Value |
|---|-------------|-----------------------------------|-------|
| 1. Vicat-softening point VST/B/50 | ISO 306 | °C | 250 |
| VST/A/50 | | | - |
| 2. Heat deflection temperature HDT/B | ISO 75 | | 240 |
| HDT/A | | | 158 |
| 3. Coef. of linear thermal expansion (α) | ISO 11359 | K ⁻¹ *10 ⁻⁴ | 0,47 |
| 4. Thermal conductivity at 20 °C (λ) | ISO 22007-4 | W/(m*K) | 0,25 |
| 5. Glass transition temperature (T_g) | ISO 3146 | °C | 143 |
| 6. Melting temperature (T_m) | | | 340 |

IV. Electrical Properties

| | Test method | Unit | Value |
|---|-------------|--------------|----------------|
| 1. Volume resistivity (ρ_D) ⁸⁾ | IEC 60093 | Ω *cm | $\geq 10^{13}$ |
| 2. Surface resistivity (R_o) ⁸⁾ | | Ω | $\geq 10^{13}$ |
| 3. Dielectric constant at 1MHz (ϵ_r) | IEC 60250 | - | 3,2 |
| 4. Dielectric loss factor at 1 MHz ($\tan\delta$) | | - | 0,003 |
| 5. Dielectric strength | IEC 60243-1 | kV/mm | 16 |
| 6. Tracking resistance | IEC 60112 | V | CTI 125 |

V. Additional Data

| | Test method | Unit | Value |
|---|-------------|------|-------|
| 1. Bondability | - | - | + |
| 2. Physiological indifference ⁵⁾ according | EEC | - | + |
| | FDA | - | + |
| 3. Flammability | UL 94 | - | V-0 |
| 4. Limiting Oxygen Index (LOI) | ASTM D2863 | % | 35 |
| 4. UV stabilisation ⁶⁾ | - | - | 0 |

1) The physical data contained in this table are typical values and reflect the current state of our knowledge. The data are arithmetic average values which are tested by test specimens made out of rods (\varnothing 40-60 mm). These has to be understood as guidelines, and shall not be used for specification purposes for finished parts. Missing data are completed by data of the raw materials.

2) Pretreatment necessary 3) 65 (rods 160 - 200 mm \varnothing) 57 (rods 220 - 300 mm \varnothing)

4) 59 (rods 160 - 200 mm \varnothing), 51 (rods 220 - 300 mm \varnothing) 5) Physiological indifferences are valid for nature coloured materials on the raw material side. There are also approvals for our semi-finished products available or in preparation. Please check this separately with us.

6) valid for nature coloured materials. An additional UV protection can taken over by special pigments e.g. carbon black.

7) Test results without UL registration 8) Data are only valid for natural colours 9) Data taken from raw material *Self-assessment without test certificate * Own classification without official test report

n.b.= no break + = yes o = limited - = no/no data available